

REMARKS

Claims 12, 14-17, 19-22, 24-27 and 29-31 are pending in the present application.
Claims 12, 14, 17, 19, 22, 24, 27 and 29 have been amended.

Product by Process Assertion

On page 3 of the current Office Action dated August 20, 2007, the Examiner has asserted that independent claims 12, 17, 22 and 27 are "product by process" claims that are directed to the product per se, no matter how actually made. Applicant respectfully disagrees for the following reasons.

The semiconductor device of claim 12 includes in combination among other features a semiconductor element, an electrode, a wiring portion, a conductive post, a resin layer, an external connection and a protective layer "on the second surface of the semiconductor element, ...wherein the protective layer is a peelably removable UV sensitive tape comprised of a hardened synthetic resin that bonds the tape to the second surface of the semiconductor element". It should thus be readily clear that claim 12 as noted above is a device claim.

In the Response to Arguments section beginning on page 10 of the current Office Action, the Examiner has characterized the arguments as presented in the Amendment dated June 4, 2007, as directed to process aspects of the claimed invention. The Examiner has further asserted that describing the protective layer as a tape rather than being spun onto the second surface of the semiconductor element "is

not a physical distinction but a process distinction”.

Applicant respectfully submits that claim 12 is not a “product by process” claim as asserted by the Examiner. The protective layer of claim 12 is featured as a peelably removable UV sensitive tape, whereby the tape includes a hardened synthetic resin that bonds the tape to the second surface of the semiconductor element. These features are not descriptive of processing distinctions, but more precisely describe the physical distinctiveness of the protective layer. That is, the protective layer is a peelably removable UV sensitive tape. This language is descriptive of the type of tape used as the protective layer, not the manner of processing or making the device itself. The patentability of the semiconductor device of claim 12 thus rests on the features of the device or the product itself, and is not dependent upon the method of production of the semiconductor device. Claims 17, 22 and 27 include somewhat similar features, and thus also should not be construed as product by process claims.

Accordingly, Applicant respectfully requests the Examiner to acknowledge on the record that independent claims 12, 17, 22 and 27 do not include product by process features. **In the event that the Examiner continues to maintain that claims 12, 17, 22 and 27 include product by process features, Applicant respectfully requests the Examiner to specifically identify on the record the product by process features, and/or to explain why peelably removable UV sensitive tape bonded on a surface of a semiconductor element would be considered as product by process features.**

Claim Rejections – 35 U.S.C. 102/103

Claims 12, 14, 15, 17, 19, 20, 22, 24, 25, 27, 29 and 30 have been rejected under 35 U.S.C. 102(e) as being anticipated by the Elenius et al. reference (U.S. Patent No. 6,441,487), or in the alternative, under 35 U.S.C. 103(a) as obvious over the Elenius et al. reference in view of the Hashimoto reference (WO 98-25297). This rejection is respectfully traversed for the following reasons.

Initially, Applicant notes that on page 6 of the current Office Action dated August 20, 2007, the Examiner has cited and relied in the alternative on page 8, lines 21-28 of the Hashimoto reference. The Examiner has thus cited and relied upon specific portions of a non-English foreign language reference, without providing a full English language translation of the reference. Only an English language abstract has been provided along with WO 98-25297. The image file wrapper of this application on the U.S. Patent Office website also fails to include a full English language translation of the Hashimoto reference.

As set forth in the Manual of Patent Examining Procedure (MPEP) section 706.02, if a document relied on is in a language other than the English language and the Examiner seeks to rely on that document, a translation must be obtained and provided by the Examiner, so that the record is clear as to the precise facts the Examiner is relying upon in support of the rejection. **Since the Examiner has particularly relied upon a non-English document without providing a translation, this corresponding rejection should be deemed as improper under the guidelines**

of MPEP section 706.02 and should thus be withdrawn.

However, in an effort to further prosecution of this application, Applicant respectfully directs attention to U.S. Patent No. 6,475,896 (Hashimoto), which is based on the Hashimoto (WO 98-25297) reference as relied upon by the Examiner. Although the comments as follows have been made with reference to U.S. Patent No. 6,475,896 (hereinafter referred to as the **Hashimoto Patent**), Applicant respectfully submits that the current rejection in view of the secondarily relied upon Hashimoto reference (WO 98-25297) is nevertheless improper and should be withdrawn for the reasons noted above. That is, the precise facts the Examiner is relying upon in view of the Hashimoto reference (WO 98-25297) remains unclear despite Applicant's comments made hereinbelow regarding the Hashimoto Patent (U.S. Patent No. 6,475,896).

The Examiner is respectfully requested to confirm that the Hashimoto Patent (U.S. Patent No. 6,475,896) will be cited of record in the present application.

Turning to the substance of the rejection, the semiconductor device of claim 12 includes in combination among other features a protective layer "on the second surface of the semiconductor element, ...wherein the protective layer is a peelably removable UV sensitive tape comprised of a hardened synthetic resin that bonds the tape to the second surface of the semiconductor element". Applicant respectfully submits that the semiconductor device of claim 12 distinguished over and would not have been obvious in view of the prior art as specifically relied upon by the Examiner, taken with or without

the Hashimoto Patent, for at least the following reasons.

On page 6 of the current Office Action dated August 20, 2007, the Examiner has acknowledged that Applicant's admitted prior art and the Elenius et al. reference fail to show ***"forming the protective layer on the second surface of the device from a tape. Nonetheless, spin coating or taping the protective layer to the second surface are intermediate method steps that do not effect the structure of the final protective layer"*** (our emphasis added). The Examiner has asserted that the Hashimoto reference teaches on page 12, lines 21-28, applying a protective layer using a spin coating method, and further teaches that the protective layer may alternatively be applied from a tape because a large quantity of resin is wasted during a spin coating method. The Examiner has thus asserted that it would have been obvious to tape the protective layer to the second surface of the Hashimoto reference.

Initially, it would appear that the Examiner has misconstrued the features of claim 12. Claim 12 does not feature "taping the protective layer on the second surface", or "forming the protective layer on the second surface of the device from a tape" or as dispensed or applied from a tape, as apparently asserted by the Examiner. That is, claim 12 features that the protective layer is a tape, and more particularly a peelably removable UV sensitive tape. Claim 12 is not about providing, applying or dispensing a protective layer as by spin coating, or as by or from a tape, as apparently interpreted by the Examiner.

That is, the semiconductor device of claim 12 includes in combination a

protective layer on the second surface of the semiconductor element, wherein the protective layer is a peelably removable UV sensitive tape that is comprised of a hardened synthetic resin that bonds the tape to the second surface of the semiconductor element. In other words, the protective layer on the second surface of the semiconductor element is a tape.

In contrast, as described beginning in column 8, line 66 of the Hashimoto Patent (U.S. Patent No. 6,475,896) with respect to Fig. 1A, application of photosensitive polyimide resin 14 over the upper surface of wafer 10 and electrodes 12 may be by using a device which employs a pump to eject "a tape-shaped polyimide resin". The Hashimoto Patent does not describe that polyimide resin 14 is a tape, but merely that it may be dispensed in the shape of a tape. More particularly, the Hashimoto Patent does not describe, disclose or even remotely suggest a protective layer that is a peelably removable UV sensitive tape comprised of a hardened synthetic resin that bonds the tape to a second surface of a semiconductor element, as would be necessary to meet the features of claim 12.

As emphasized in the paragraph bridging pages 10-11 of the Amendment dated June 4, 2007, the protective layer of claim 12 is a tape. As described beginning on page 6, line 24 of the present application, during rear surface polishing, protective tape 22 is first peeled from the rear surface of the wafer using UV irradiation, and then the rear surface is polished. Since no heat treatment is performed at this point, no problem occurs if protective tape 22 is peeled off. Organic protective coating 34 such as in Fig.

2 of the Elenius et al. reference, as spun onto the backside of semiconductor wafer 14, is not a protective tape, and thus is not removable so as to enable subsequent rear surface polishing of semiconductor wafer 14 shown in Fig. 2 of the Elenius et al. reference.

Applicant therefore respectfully submits that the prior art as relied upon by the Examiner (taken with or without the Hashimoto Patent), does not disclose or make obvious the semiconductor device of claim 12. Applicant therefore further respectfully submits that the semiconductor device of claim 12 distinguishes over and would not have been obvious in view of the prior art as relied upon by the Examiner taken singularly or together, and that this rejection, insofar as it may pertain to claims 12, 14 and 15, is improper for at least these reasons.

The semiconductor device of independent claim 17 includes in combination among other features a protective layer "on the second surface of the semiconductor element,...wherein the protective layer is a peelably removable UV sensitive tape which comprises a hardened synthetic resin that bonds the tape to the second surface of the semiconductor element". Independent claims 22 and 27 respectively include similar features. Applicant respectfully submits that the semiconductor devices of respective claims 17, 22 and 27 distinguish over and would not have been obvious in view of the prior art as relied upon by the Examiner taken singularly or together (taken with or without the Hashimoto Patent), and that this rejection, insofar as it may pertain to claims 17, 19, 20, 22, 24, 25, 27, 29 and 30, is improper for at least these reasons.

Claims 12, 14-17, 19-22, 24-27 and 29-31 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art in view of the Elenius et al. reference and Hashimoto reference. Applicant respectfully submits that this corresponding rejection is improper for at least similar reasons as set forth above. That is, the prior art as relied upon by the Examiner taken singularly or together (taken with or without the Hashimoto Patent), does not make obvious a protective layer on a second surface of a semiconductor element, wherein the protective layer is a peelably removable UV sensitive tape which comprises a hardened synthetic resin that bonds the tape to the second surface of the semiconductor element.

Conclusion

The Examiner is respectfully requested to reconsider and withdraw the corresponding rejections, and to pass the claims of the present application to issue, for at least the above reasons.

In the event that there are any outstanding matters remaining in the present application, please contact Andrew J. Telesz, Jr. (Reg. No. 33,581) at (571) 283-0720 in the Washington, D.C. area, to discuss these matters.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment for any additional fees that may be required, or credit any overpayment, to Deposit Account No. 50-0238.

Respectfully submitted,

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